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Área: Estadística aplicada a la Educación

Grado: 5º.                      Carrera: Magisterio de Educación Preprimaria

Actividad: 3

Fecha: 12 de octubre de 2021

Catedrática: Freddy Barrios

| X              | Y             | $x - \bar{x}$ | $y - \bar{y}$ | $(x - \bar{x})(y - \bar{y})$ | $(x - \bar{x})^2$ | $(y - \bar{y})^2$ |
|----------------|---------------|---------------|---------------|------------------------------|-------------------|-------------------|
| 10             | 2             | -30           | -3            | 90                           | 900               | 9                 |
| 20             | 3             | -20           | -2            | 40                           | 400               | 4                 |
| 30             | 4             | -10           | -1            | 10                           | 100               | 1                 |
| 40             | 5             | 0             | 0             | 0                            | 0                 | 0                 |
| 50             | 6             | 10            | 1             | 10                           | 100               | 1                 |
| 60             | 7             | 20            | 2             | 40                           | 400               | 4                 |
| 70             | 8             | 30            | 3             | 90                           | 900               | 9                 |
| $\Sigma = 280$ | $\Sigma = 35$ |               |               | 280                          | 2,800             | 25                |

$$\bar{x} = \frac{280}{7} = 40$$

$$s_x = \sqrt{\frac{2,800}{7-1}}$$

$$\bar{y} = \frac{35}{7} = 5$$

$$s_x = \sqrt{\frac{2,800}{6}}$$

$$s_x = \sqrt{466.67}$$

$$s_x = 21.60$$

$$s_y = \sqrt{\frac{25}{6}}$$

$$s_y = \sqrt{4.167}$$

$$s_y = 2.16$$

$$r = \frac{280}{(21.60)(2.16)}$$

$$r = \frac{280}{46.56}$$

$$r = 1$$

R=0.80

| X              | Y             | X-X | Y-Y   | (X-X)(Y-Y) | (X-X) <sup>2</sup> | (Y-Y) <sup>2</sup> |
|----------------|---------------|-----|-------|------------|--------------------|--------------------|
| 10             | 1             | -40 | -3.89 | 155.6      | 1,600              | 15.1321            |
| 20             | 2             | -30 | -3.11 | 93.3       | 900                | 9.6721             |
| 30             | 3             | -20 | -1.89 | 37.8       | 400                | 3.5721             |
| 40             | 4             | -10 | -1.11 | -11.1      | 100                | 1.2321             |
| 50             | 5             | 0   | 4.11  | 0          | 0                  | 16.8921            |
| 60             | 6             | 10  | -3.89 | -38.9      | 100                | 15.1321            |
| 70             | 7             | 20  | 0.11  | 2.2        | 400                | 0.0121             |
| 80             | 8             | 30  | 4.11  | 123.3      | 900                | 16.8921            |
| 90             | 9             | 40  | -2.89 | -115.6     | 1,600              | 8.3521             |
| $\Sigma = 450$ | $\Sigma = 44$ |     |       | 577.8      | 6,000              | 86.8889            |

$$\bar{X} = \frac{450}{9} = 50$$

$$SX = \sqrt{\frac{6000}{9-1}}$$

$$SX = \sqrt{\frac{6000}{8}}$$

$$SX = \sqrt{750}$$

$$SX = 27.39$$

$$\bar{Y} = \frac{44}{9} = 4.89$$

$$SY = \sqrt{\frac{86.8889}{9-1}}$$

$$SY = \sqrt{10.86}$$

$$SY = 3.30$$

$$r = \frac{577.8}{27.39 \times 3.30}$$

$$r = \frac{577.8}{90.387}$$

$$r = 0.80$$